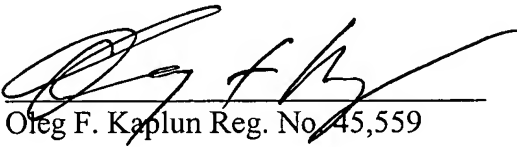## REMARKS

It is respectfully submitted that all of the presently pending claims are novel, nonobvious and useful and that the present application is in condition for allowance. Therefore, a prompt and favorable action on the merits is earnestly solicited. The Examiner is invited to contact the undersigned to discuss any matter concerning this application.

Respectfully submitted,

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Oleg F. Kaplun Reg. No. 45,559

100 Maiden Lane, 17th Floor
New York, New York 10038
Tel: (212) 898-8870
Fax: (212) 208-8819

45.   (New) A medical system to analyze brain waves of a subject comprising:

(a)   an active EEG (electroencephalograph) electrode detecting a subject's brain waves;

(b)   stimulus means providing to the subject concurrent sense stimuli in a plurality of stimulus modes, the stimuli in a first one of the modes being at frequency F_1 and the stimuli in a second one of the modes being at a frequency F_2;

(c)   an amplifier amplifying and digitizing the detected brain waves;

(d)   ratio means receiving the digitized brain waves from (c) and producing subject brain wave F ratio data as a function of a power of brain responses at each of F_1 and F_2 in the presence and absence of stimulation;

(e)   a receiver including a computer which compares the subject brain wave F ratio data from (d) with one of brain wave F ratio data generated as a function of one of data from (i) a normal group of patients and (ii) data generated by the subject in the presence and absence of stimulation;

(f)   a warning means situated in the receiver and warning when the comparison of (e) indicates one of injury to and dysfunction of one of the subject's spinal cord, brain stem and brain; and

(g)   modulating means modulating a carrier wave and the amplified brain waves, the modulating means generating an audio signal therefrom.

46.   (New) The medical system according to claim 45, wherein a statistical evaluation of computed measures from a subject is determined by computing a Z-score, where $Z = (M-P)/6$, wherein M is a mean value of a normative distribution, P is a current measure from the subject and 6 is a standard deviation of a normal age- matched population.

47.   (New) The medical system according to claim 45, further comprising:
a radio broadcast transmitter; and
a headband situating thereon the electrode, the amplifier and the radio broadcast transmitter.

48.   (New) A medical system to analyze brain waves of a subject, comprising:

(a)   an active EEG (electroencephalograph) electrode detecting a subject's analog brain waves;

(b)   connection means removably connecting the electrode to a subject's head;

(c)   an amplifier situated on the connection means, the amplifier amplifying the detected brain waves;

(d)   radio broadcast means situated on the connection means, the radio broadcast means generating a brain wave broadcast signal by modulating a carrier signal based on the detected analog brain waves, the radio broadcast means broadcasting

the brain wave broadcast signal;

(e)   a receiver receiving and amplifying the broadcast brain wave signal; and

(f)   sound generating means situated in the radio receiver, the sound generating means demodulating the amplified broadcast brain wave signals and converting demodulated brain waves into tone-like sounds.

49.   (New) The medical system according to claim 48, wherein the connection means includes a headband.

50.   (New) The medical system according to claim 48, wherein the radio receiver means includes a filter which selects a frequency band from a group of frequency bands of the broadcast brain wave signals.

51.   (New) The medical system according to claim 50, wherein the group of frequency bands includes delta, theta, alpha and beta bands.

52.   (New) A medical system to analyze brain waves of a subject, comprising:

(a)   an *EEG* (electroencephalograph) electrode for detecting a subject's brain waves;

(b)   attachment means coupled to the electrode and removably attaching the electrode to a subject's head;

(c)   an amplifier connected to the electrode for amplifying the detected brain waves;

(d)   analog/digital convertor means digitizing the detected brain waves and producing digitized brain wave data therefrom;

(e)   a radio transmitter situated on the attachment means and broadcasting the subject's brain wave data after amplification and modulation;

(d)   a remote radio receiver and demodulator receiving and demodulating the broadcast brain wave data;

(e)   a computer comparing the subject's brain wave data with a brain wave data base based upon a normal group of subjects stored in the analyzer means; and

(f)   a warning means situated on the attachment means and on the receiver, the warning means warning if the comparison of (e) indicates brain injury.

53.   (New) The medical system according to claim 52, wherein the warning means includes one of a plurality of lights, an audio device and an alphanumeric display panel.

54.   (New) The medical system according to claim 52, wherein the attachment means includes a patch and the electrode includes an active electrode, a reference and a ground.

55.   (New) The medical system according to claim 52, wherein the transmitter means includes one of a radio transmitter and a cellular telephone.

56.   (New) The medical system according to claim 52, wherein the transmitted brain wave

data includes data from a series of sequential observations.

57. (New) The medical system according to claim 56, wherein the series of sequential observations is divided into odd and even split-halves, replication of findings between the split-halves being used to validate results.

58. (New) The medical system according to claim 52, wherein the series of quantitative measures extracted from the data are used to construct a state trajectory.

59. (New) The medical system according to claim 52, comprising:
producing means situated in the receiver, the producing means producing an audio output from a broadcast carrier modulated based on the subject's brain waves.

60. (New) The medical system according to claim 52, comprising:
an EKG (electrocardiograph) amplifier situated in the receiver means;
an EKG electrode adapted to be removably connected to the subject and connected to the EKG amplifier; and
display means situated in the receiver and displaying heart beats and a digitized heart rate of the subject.

61. (New) The medical system according to claim 52, comprising:
a blood pressure monitor situated in the receiver means;
a blood pressure cuff adapted to be removably connected to the subject; and
display means situated in the receiver and displaying a blood pressure of the subject.

62. (New) The medical system according to claim 52, comprising:
a blood oxygen meter situated in the receiver;
an oxygen probe adapted to be removably connected to the subject; and
display means situated in the receiver and displaying a blood oxygen level of the subject.

63. (New) The medical system according to claim 52, comprising report means situated in the receiver and generating a digital data report as a function of the comparisons of (e) and broadcast means situated on the receiver and broadcasting the report.

64. (New) The medical system according to claim 63, wherein the receiver includes a hand-held local radio receiver, the attachment means including a radio transmitter transmitting to the local receiver, the receiver including transmission means which transmits a brain wave data report to a remote receiver.

65. (New) The medical system according to claim 52, wherein the attachment means includes a headband.

66. (New) The medical system according to claim 52, comprising:

at least three electrodes;
three amplifiers; and
reference and ground electrodes.

67.   (New) A medical method to analyze brain waves of a subject, comprising the steps of:

(a)   attaching to a subject an EEG (electroencephalograph) electrode to detect the subject's brain waves;

(b)   providing to the subject concurrent sense stimuli in two different stimulus modes, the stimuli in a first one of the modes being at frequency F_1 and the stimuli in a second one of the mode being at a frequency F_2;

(c)   amplifying and digitizing the detected brain waves;

(d)   receiving the digitized brain waves from (c) and producing subject brain wave F ratio data based on a power of brain responses at each of F_1 and F_2 in the presence and absence of stimulation;

(e)   comparing one of the subject brain wave F ratio data from (d) corresponding to the presence of stimulation to subject brain wave F ratio data corresponding to the absence of stimulation and the subject brain wave F ratio data from (d) with brain wave F ratio data based upon a normal group of subjects;

(f)   generating a warning signal to warn if the comparison of (e) indicates one of injury to and dysfunction of one of the subject's spinal cord, brain stem and brain;

(g)   generating a report based on the comparison of (e); and

(h)   transmitting the report to a base station.

68.   (New) A medical method to analyze brain waves of a subject, comprising the steps of:

(a)   removably connecting an active EEG (electroencephalograph) electrode to a head of the subject using connection means;

(b)   detecting the subject's analog brain waves;

(c)   amplifying the detected brain waves using an amplifier situated on the connection means;

(d)   generating a brain wave broadcast signal, using radio broadcast means situated on the connection means by modulating a carrier signal based on the detected analog brain waves;

(e)   broadcasting the brain wave signal;

(f)   receiving and amplifying the broadcast brain wave signal using a hand-held radio receiver; and

(g)   generating sounds based on the brain wave signals using the hand-held receiver by demodulating the amplified broadcast brain wave signals.